

(54) DIVERSITY BRANCH SWITCHING CONTROL SYSTEM

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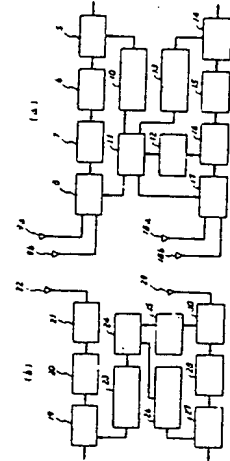
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(71) NIPPON TELEGR & TELEPH CORP <NTT> (72) KENJI TOMA(1)

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PURPOSE: To obtain a transmitting/receiving antenna switching diversity by signals, transmitting from a transmission station with adding an identifier, and storing the information of an optimal branch from signals received by means of a receiving station, and transmitting a packet with adding the optimal branch identifier.

CONSTITUTION: A base station (a) transmits a first packet from the branch selected while adding the branch identifier, and transmits a second packet by selecting the different branch while adding the branch identifier. On the other hand, a mobile station (b) is composed so as to store the received larger level branch for the packet transmitted from the different branches, when the mobile station transmits the information, the stored branch information is transmitted by adding it to the packet as the optimal branch identifier. In the base station, transmitting antennas 9a and 9b for the mobile station are controlled by the optimal branch identifier sent from the mobile station. Thus the same effect as the execution of the receiving diversity for the both stations can be obtained in simple constitution.



5.14.19.27: base band. 6.20: modulator. 7.21: transmitter. 8.17: switch. 10.23: identifier adding part. 11: control part. 12.25: level detecting part. 13.26: identifier deciding part. 15.23: demodulator. 16.30: receiver. 21: storing part

(54) ANTENNA SWITCHING DIVERSITY SYSTEM

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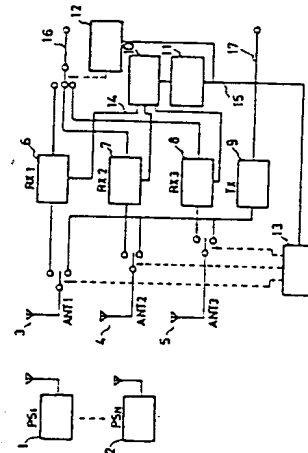
(21) Appl. No. 64-17466 (22) 30.1.1989

(71) NIPPON TELEGR & TELEPH CORP <NTT> (72) KIYOSHI TANAKA

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PURPOSE: To obtain an economical mobile station equipment and an excellent communicating quality by executing diversity by means of a received output and antenna switching at the time of receiving and transmitting on a base station side.

CONSTITUTION: Reception level information 14 of each receiver is stored into a storing circuit 10 when the mobile station transmits signals, a predicted reception level 15 of a predicting circuit 11 is inputted to a selecting circuit 12, a receiver output to be the highest reception level is selected, and a reception output 16 is produced. In such a case, when the characteristics of the respective receivers are the same, the antenna, which is predicted to have the highest propagation condition is selected out of the plural antennas. A transmission signal 17 is inputted to a transmitter 9, the transmitter output selects the antenna connected to the receiver, whose predicted reception level by means of the predicting circuit 11 is the highest, is selected by a selecting circuit 13, and the signal is transmitted to the mobile station. At such a time, the antenna selected by the selecting circuit 13 is the one which is predicted to have the highest propagation condition for the mobile station, where the signal is transmitted.



1.2: mobile station. 6.7.8: receiver

(54) COMMUNICATION CONTROLLER

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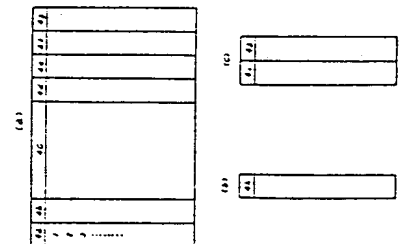
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(51) Int. Cl. H04B7/26

PURPOSE: To attain a signal input/output control according to the signal contents by stopping a timer when a response signal is received in a prescribed time indicated with a recycle timer value, and resending the signal by changing a time-out when a response is not returned.

CONSTITUTION: A signal input/output device 2 retrieves an input/output device control table 4i, and retrieves the memory area of a signal identification number 4a to be outputted by the signal input/output device 2. That the lock bit 4b in the memory area can be retrieved is confirmed, signal contents 4c are read, the signal conforming to a regulated mode is generated by a signal forming circuit 2a, and the signal is outputted. At such a time, a timer 5 is activated, and when the response is returned in the prescribed time indicated by a recycle timer value 4f from the other control signal, the timer 5 is stopped. When the response is not returned, the signal input/output device retrieves a memory 4 by changing the timer time-out conforming to the output conditions, and the signal contents 4c are outputted. Thus the signal input/output control according to the signal contents is attained at every signal.



1: central processing unit. 1a: processor. 3: transmission memory. 4: two-port random access memory. 4d: signal input/output device identification number. 4e: recycle frequency. 4f: prescribed condition altering display. 4h: idle timer control table